

CLAIMS

- 1. (Currently Amended)** A method comprising:
- receiving a message at a routing node in an overlay network, the message comprising a header and a body, wherein the header comprises information for routing the message;
- passing the message to the application level at the routing node to process the message;
- generating by the routing node a routing policy message, the routing policy message including a routing policy for a sending node based at least in part on the body of the message, wherein the routing policy comprises instructions for routing nodes for redirecting messages, wherein redirecting is based at least in part on the body of the message;
- returning sending the routing policy message to the sending node;
- identifying by the sending node a final destination address to which to route the message based in part on the routing policy of the routing policy message; and
- after identifying the final destination, incorporating by the sending node the routing policy into the body of the message; and
- forwarding by the sending node the message to the final destination node in the overlay network based on the instructions.

2. (Currently Amended) The method of claim 1, further comprising:

after passing the message to the application level at the routing node, modifying an address of the header of the message to create a modified address;

after generating the routing policy for the sending node based at least in part on the body of the message, determining from the message if the sending node does not have routing policy instructions derived from the body of the message after the message is passed to the application level of the routing node; and

generating the routing policy for the routing policy message based on the modified address and returning the routing policy message to the sending node if it is determined that the sending node does not have routing policy instructions derived from the body of the message received at the routing node.

3. (Canceled)

4. (Currently Amended) The method of claim 1, wherein generating the routing policy is at an application level in the routing node, and wherein a compression policy is applied to the message prior to returning the routing policy to the sending node forwarding the message to the final destination node in the overlay network.

5. – 8. (Canceled)

9. (Currently Amended) The method of claim 1, further comprising iteratively applying by the sending node a plurality of routing policies to the message, each of the plurality of routing policies modifying the address in the message, and applying by the sending node a security policy to the message prior to forwarding the message to the final destination node in the overlay network.

10. **(Cancelled)**

11. **(Currently Amended)** The method of claim 1, further comprising receiving a plurality of routing policies at a sending node from a plurality of routing nodes in the overlay network prior to identifying by the sending node a final destination address.

12. **(Previously Presented)** The method of claim 1, wherein identifying at least one routing policy is based at least in part on the address of the header of the message.

13. **(Currently Amended)** The method of claim 1, further comprising applying a transport policy to the message by the sending node after changing the address in the header of the message, wherein the transport policy defines which transportation protocol with which to send the message.

14. **(Previously Presented)** The method of claim 1, further comprising:

applying a transport policy to the message only after applying each identified routing policy to the message, wherein the transport policy defines a transportation protocol over which to transport the message, and

applying an encryption policy before issuing the message directly to the final destination node in the overlay network.

15. **(Withdrawn)** A system comprising:

a routing node receiving a message in an overlay network, wherein the message comprises a body and a header, wherein the header comprises information for routing the message;

routing table operatively associated with the routing node; and

a message processor at the routing node, the message processor generating a routing policy for a sending node of the message and incorporating the routing policy into the body of the message, wherein the routing policy comprises instructions for redirecting messages based at least in part on content of the body of the message, the message processor generating the routing policy based on entries in the routing table, and the message processor applying a security policy to the message.

16. **(Canceled)**

17. **(Withdrawn)** The system of claim 15, wherein the routing node includes a messaging level and an application level, the routing node generating the routing policy at the application level.

18. **(Withdrawn)** The system of claim 15, wherein the routing node includes a messaging level and an application level, the routing node returning the routing policy to the sending node at the messaging level.

19. (Withdrawn) The system of claim 15, wherein the routing node includes a messaging level and an application level, the routing node forwarding the message to another node in the overlay network at the messaging level.

20. (Withdrawn) A system comprising:

at least one routing policy for a message, the message comprising a header and a body, wherein the header comprises information for routing the message, wherein the at least one routing policy is generated by at least one routing node in an overlay network, wherein the routing policy comprises instructions for redirecting messages;

a messaging module configured to change an address in the header of the message at a sending node to bypass at least one node in the overlay network based on the at least one routing policy so that the message is issued directly to a final destination node in the overlay network, wherein the messaging module is configured to incorporate the routing policy into the body of the message; and

a policy manager configured to identify the at least one routing policy to the messaging module based at least in part on content of the body of the message.

21. – 23. (Canceled)

24. (Withdrawn) The system of claim 20, further comprising a transport policy identifying a transport protocol for the message based on the address in the header of the message, and wherein the messaging module is further configured to determine from the message if the sending node does not have routing policy instructions derived from the body of the message, and wherein the policy manager is configured to return the routing policy to the sending node if it is determined that the sending node does not have routing policy instructions derived from the body of the message.

25. (Currently Amended) A computer program storage medium

storing a computer program for executing on a computer system a method, the method comprising:

receiving a message at a routing node in an overlay network, wherein the message comprises a body and a header, wherein the header comprises information for routing the message;

passing the message to the application level at the routing node to process the message;

generating, by the routing node, a routing policy for a sending node of the message and a routing policy, wherein the routing policy comprises instructions for redirecting messages based at least in part on content of the body of the message, and wherein generating the routing policy message includes incorporating the routing policy into the body of the routing policy message;

returning the routing policy message to the sending node;

identifying, by the sending node, a final destination address to which to route the message; and

forwarding the message to a final destination node in the overlay network, the final destination node corresponding to the final destination address.

26. (Currently Amended) The computer program storage medium

of claim 25 wherein the method further comprises:

generating the routing policy based on the final destination address; and

applying a compression policy to the message prior to returning the routing policy to the sending node.

27. (Previously Presented) The computer program storage medium of claim 25 wherein the method further comprises:

after generating the routing policy for the sending node of the message, determining from the message if the sending node does not have routing policy instructions derived from the body of the message after the message is passed to the application level of the routing node; and

generating the routing policy and returning the routing policy to the sending node if it is determined that the sending node does not have routing policy instructions derived from the message.

28. (Previously Presented) The computer program storage medium of claim 25 wherein the method further comprises generating the routing policy at an application level in the routing node and applying an encryption policy to the message before forwarding the message to the final destination node.

29. – 30. (Canceled)

31. (Currently Amended) A computer program storage medium storing a computer program for executing on a computer system a method, the method comprising:

identifying at least one routing policy for a message, the message comprising a header and a body, wherein the header comprises information for routing the message, wherein the routing policy comprises instructions for redirecting messages based at least in part on content of the body of the message;

changing an address in the message to bypass at least one node in an overlay network based on the at least one routing policy;

identifying a final destination address to which to route the message;

incorporating the routing policy into the body of the message and issuing the message in the overlay network directly to the final destination node; and

sending the at least one routing policy to a sending node in the overlay network
determining from the message whether the sending node has routing policy
instructions derived from the body of the message; and

returning a routing policy message which includes the routing policy to the
sending node when it is determined that the sending node does not have routing policy
instructions derived from the body of the message.

32. (Cancelled)

33. (Currently Amended) The computer program storage medium

of claim 31 wherein the method further comprises:

~~determining from the message if the sending node does not have routing policy instructions derived from the body of the message after identifying at least one routing policy; and~~

~~returning the routing policy to the sending node if it is determined that the sending node does not have routing policy instructions derived from the body of the message;~~

iteratively applying a plurality of routing policies to the message, each of the plurality of routing policies changing the address in the message.

34. (Cancelled)

35. (Previously Presented) The computer program storage medium

of claim 31 wherein the method further comprises sending a plurality of routing policies to a sending node from a plurality of routing nodes in the overlay network, and applying an encryption policy to the message before sending the at least one routing policy to a sending node in the overlay network.

36. (Previously Presented) The computer program storage medium

of claim 31 wherein the method further comprises:

identifying at least one routing policy based at least in part on the address in the header of the message; and

applying a compression policy to the message.

37. **(Previously Presented)** The computer program storage medium of claim 31 wherein the method further comprises applying a transport policy to the message after changing the address in the header of the message.

38. **(Previously Presented)** The computer program storage medium of claim 31 wherein the method further comprises:

 applying a transport policy to the message only after applying each identified routing policy to the message; and

 applying a security policy to the message.

39. **(New)** The method of claim 1, further comprising:

 after returning the routing policy message to the sending node, sending the routing policy message to other routing nodes in the overlay network.

40. **(New)** The method of claim 1, further comprising:

 after returning the routing policy message to the sending node, the routing node combining the routing policy with other received routing policies into a master routing policy for nodes in the overlay network.